

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date
17 July 2003 (17.07.2003)

PCT

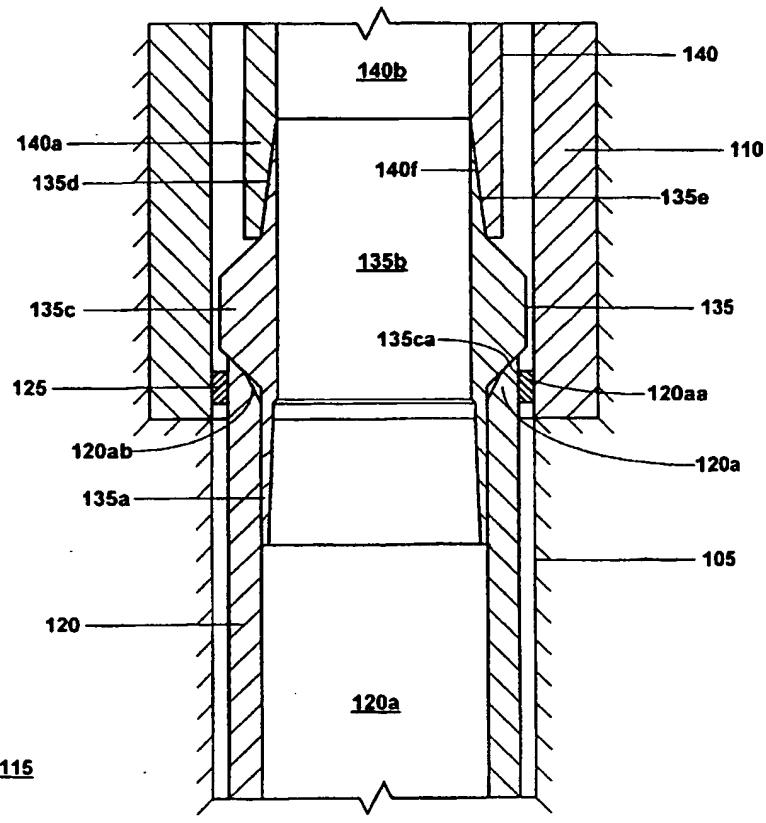
(10) International Publication Number
WO 2003/058022 A3

- (51) International Patent Classification⁷: E21B 23/00
- (21) International Application Number:
PCT/US2002/039425
- (22) International Filing Date:
10 December 2002 (10.12.2002)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
60/343,674 27 December 2001 (27.12.2001) US
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- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW).

[Continued on next page]

(54) Title: SEAL RECEPTACLE USING EXPANDABLE LINER HANGER

WO 2003/058022 A3



(57) Abstract: The end of an expandable liner hanger (120) provides a receptacle for another tubular liner (135).



Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,
ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SI, SK,
TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
GW, ML, MR, NE, SN, TD, TG).

— before the expiration of the time limit for amending the
claims and to be republished in the event of receipt of
amendments

(88) Date of publication of the international search report:

8 July 2004

Declaration under Rule 4.17:

— of inventorship (Rule 4.17(iv)) for US only

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US02/39425

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : E21B 23/00
US CL : 166/207,208,382

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
U.S. : 166/207,208,382,384

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|------------|------------------------------------------------------------------------------------|-----------------------|
| X | US 4,601,343 A (Lindsey, Jr. et al.) 22 July 1986 (22.07.1986), Figures 1 and 2. | 1,3,5,7 |
| -- | | ----- |
| Y | | 9 |
| X | US 4,942,925 A (Themig) 24 July, 1990 (24.07.1990), Figure 3. | 1,7,8 |
| -- | | ----- |
| Y | | 9 |
| X | US 4,856,592 A (Van Bilderbeek et al.) 15 August 1989 (15.08.1989), Figure 4 | 1,7,8 |

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| Date of the actual completion of the international search | Date of mailing of the international search report |
| 16 May 2003 (16.05.2003) | 28 MAY 2004 |
| Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703)305-3230 | Authorized officer Lynne H. Browne <i>L.H.Browne</i> Telephone No. 703-308-1113 |